AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Claims 1-31. (Cancelled)

32. (Currently Amended) ~~Method~~ A method for communication between unsynchronized nodes in a multi-carrier system, ~~utilising~~ utilizing a set of carriers and having a predetermined symbol length,

the method comprising the steps of:

- reserving a sub-set of carriers for communication between ~~unsynchronised~~ unsynchronized nodes,

- at least one respective carrier of said sub-set of carriers being assigned to nodes in the multi-carrier system, ~~whereby~~ to create a relation between node identity of said nodes and said at least one carrier ~~being created~~;

- transmitting from a first node a phase-continuous sinusoidal signal ~~, being phase-continuous,~~ on said at least one carrier of the sub-set of carriers ~~for a~~ assigned to the first node during a predetermined transmission period,

the predetermined transmission period corresponding to the duration of n consecutive ones of the predetermined symbol length, where n is an integer larger than 1,

- receiving the transmitted sinusoidal signal in a second node that is unsynchronized with the first node; and

- the second node interpreting the received sinusoidal signal~~, in turn comprising~~ including associating at least a frequency of the received sinusoidal signal with information about the identity of the first node~~, whereby~~ from which the existence of the first node within radio communication distance is ~~concluded~~ determined even though the second node is unsynchronized with the first node.

33. (Previously Presented) Method according to claim 32, wherein the step of interpreting the received sinusoidal signal comprises the further steps of:

- deriving a relative Doppler as a frequency difference between the received sinusoidal signal and an expected frequency associated to the first node; and

- associating the relative Doppler to a velocity component of the second node in the direction of the first node.

34. (Previously Presented) Method according to claim 33, wherein the step of interpreting the received sinusoidal signal comprises the steps of:

- associating a sign of the relative Doppler to information about if the second node moves towards or away from the first node.

35. (Previously Presented) Method according to claim 32, wherein the step of interpreting the received sinusoidal signal comprises the steps of:

- deriving a relative path loss as an averaged received signal strength compared with a transmission strength of the first node; and

- associating the relative path loss to an estimate of the distance between the first and second nodes.

36. (Currently Amended) Method according to claim 32, comprising the further steps of:

- altering characteristics of the sinusoidal signal in the first node between consecutive ones of the predetermined transmission periods in accordance with a coding of data to be sent between ~~unsynchronised~~ unsynchronized nodes;

- decoding the received sinusoidal signal in the second node to obtain the sent data.

37. (Previously Presented) Method according to claim 36, wherein the decoding is performed on every n:th received symbol.

38. (Previously Presented) Method according to claim 37, wherein the coding involves an amplitude change between the sinusoidal signal of two consecutive ones of the predetermined transmission periods.

39. (Previously Presented) Method according to claim 38, wherein the coding involves switching off and switching on, respectively, the sinusoidal signal of two consecutive ones of the predetermined transmission periods.

40. (Previously Presented) Method according to claim 37, wherein the coding involves a phase shift between the sinusoidal signal of two consecutive ones of the predetermined transmission periods.

41. (Currently Amended) Method according to claim 36, wherein a sinusoidal signal is transmitted on at least two carriers of the predetermined sub-set of carriers, whereby the coding of data to be sent between ~~unsynchronised~~ unsynchronized nodes utilises the at least two carriers of the predetermined sub-set of carriers.

42. (Currently Amended) Method according to claim 41, wherein the coding of data to be sent between ~~unsynchronised~~ unsynchronized nodes utilises time differences between the onset of the sinusoidal signal of at least two of the at least two carriers of the predetermined sub-set of carriers.

43. (Previously Presented) Method according to claim 32, wherein the first node is a base station and the second node is a mobile terminal.

44. (Currently Amended) Method according to claim 43, wherein the data to be sent between ~~unsynchronised~~ unsynchronized nodes comprises data assisting in procedures of changing base station.

45. (Currently Amended) Method according to claim 43, wherein the data to be sent between ~~unsynchronised~~ unsynchronized nodes comprises data assisting in paging procedures.

46. (Currently Amended) Method according to claim 43, wherein the data to be sent between ~~unsynchronised~~ unsynchronized nodes comprises data selected from the list of:

load indication; and

possible random access channels.

47. (Currently Amended) Method according to claim 32, wherein both the first node and the second node are base stations, whereby the data to be sent between ~~unsynchronised~~ unsynchronized nodes comprises data assisting in procedures of ~~synchronising~~ synchronizing base stations.

48. (Previously Presented) Method according to claim 32, wherein both the first node and the second node are mobile terminals.

49. (Currently Amended) Method according to claim 32, wherein the carriers of the sub-set of carriers reserved for communication between ~~unsynchronised~~ unsynchronized nodes are distributed over the frequency band of the set of carriers.

50. (Currently Amended) Method according to claim 32, wherein the carriers of the sub-set of carriers reserved for communication between ~~unsynchronised~~ unsynchronized nodes are equidistant in frequency.

51. (Previously Presented) Method according to claim 32, wherein the multi-carrier system is a orthogonal frequency division multiplexing system.

52. (Currently Amended) ~~Node, being a~~ A multi-carrier wireless-communication system node, comprising:

- a signal processor arranged to provide signals having a predetermined symbol length on a set of carriers; and

- a transmitter arranged to transmit the signals provided by the signal processor,

a predetermined sub-set of carriers being reserved for communication between ~~unsynchronised~~ unsynchronized nodes,

at least one respective carrier of said sub-set of carriers being assigned to nodes in the multi-carrier system,

whereby a relation between node identity of said nodes and said at least one carrier being created,

the signal processor being further arranged to provide a sinusoidal signal, being phase-continuous, on said at least carrier assigned to the node during a predetermined transmission period of n times the predetermined symbol length, where n is an integer larger than 1,

wherein the signal processor is arranged to:

perform for inverse Fourier transform operations,

switch off outputs from an encoder corresponding to the predetermined sub-set of carriers,

provide a sinusoidal signal corresponding to a carrier in the predetermined sub-set of carriers being associated with the node, and

add the output signals from the sinusoidal signal and inverse Fourier transform signals.

53. Canceled.

54. Canceled.

55. (Previously Presented) ~~Node according to claim 53~~ A multi-carrier wireless-communication system node, comprising:

- a signal processor arranged to provide signals having a predetermined symbol length on a set of carriers; and

- a transmitter arranged to transmit the signals provided by the signal processor,

a predetermined sub-set of carriers being reserved for communication between unsynchronised unsynchronized nodes,

at least one respective carrier of said sub-set of carriers being assigned to nodes in the multi-carrier system,

whereby a relation between node identity of said nodes and said at least one carrier being created,

the signal processor being further arranged to provide a sinusoidal signal, being phase-continuous, on said at least carrier assigned to the node during a predetermined transmission period of n times the predetermined symbol length, where n is an integer larger than 1,

wherein the signal processor further comprises:

- means for switching off outputs from an encoder corresponding to carriers of the predetermined sub-set of carriers not being associated with the node; and

- means for providing a rotation of the data symbol of the input to the means for inverse Fourier transform corresponding to carriers of the predetermined sub-set of carriers not being associated with the node,

the rotation compensating for a phase rotation during cyclic prefix and roll on/off periods for the carrier in question.

56. (Currently Amended) ~~Node, being a~~ A multi-carrier wireless-communication system receiver node, comprising:

-a receiver arranged to receive signals having a predetermined symbol length on a set of carriers; and

-a signal processor arranged to process the signals provided by the receiver,

the signal processor being further arranged to:

- detect ~~any~~ an existence of a phase-continuous sinusoidal signal ~~, being phase-continuous,~~ on at least one of a predetermined sub-set of carriers received from a transmitter node with which the receiver node is unsynchronized,

the predetermined sub-set of carriers being reserved for communication between ~~unsynchronised~~ unsynchronized nodes,

the at least one respective carrier of said sub-set of carriers being assigned to ~~nodes~~ the transmitter node in the multi-carrier system,

~~whereby a relation~~ wherein there is an established relationship between a node identity of said ~~nodes~~ transmitter node and said at least one carrier ~~being created~~; and

- interpret at least a frequency of the received sinusoidal signal as information about the identity of ~~a~~ the transmitter node transmitting the received sinusoidal signal even though the receiver node is unsynchronized with the transmitter node.

57. (Previously Presented) Node according to claim 56, wherein the signal processor comprises means for Fourier transform.

58. (Previously Presented) Node according to claim 57, wherein the signal processor comprises means for detecting intensity on any output from the means for Fourier transform corresponding to the predetermined sub-set of carriers.

59. (Previously Presented) Node according to claim 56, wherein the multi-carrier system is a orthogonal frequency division multiplexing system.

60. (Previously Presented) Node according to claim 56, wherein the node is a base station.

61. (Previously Presented) Node according to claim 56, wherein the node is a mobile terminal.

62. (Currently Amended) A wireless communications system having a node corresponding to the node in claim 52, ~~said node comprising:~~

~~signal processor arranged to provide signals having a predetermined symbol length on a set of carriers; and~~

~~transmitter arranged to transmit the signals provided by the signal processor,~~

~~a predetermined sub-set of carriers being reserved for communication between unsynchronised nodes,~~

~~at least one respective carrier of said sub-set of carriers being assigned to nodes in the multi-carrier system,~~

~~whereby a relation between node identity of said nodes and said at least one carrier being created,~~

~~the signal processor being further arranged to provide a sinusoidal signal, being phase-continuous, on said at least carrier assigned to the node during a predetermined transmission period of n times the predetermined symbol length, where n is an integer larger than 1~~.

63-65. Canceled.

66. (Currently Amended) A wireless communications system having a node corresponding to the node in claim 52~~, said node comprising:~~

~~receiver arranged to receive signals having a predetermined symbol length on a set of carriers; and~~

~~signal processor arranged to process the signals provided by the receiver,~~

~~the signal processor being further arranged to:~~

~~detect any existence of a sinusoidal signal, being phase-continuous, on at least one of a predetermined sub-set of carriers,~~

~~the predetermined sub-set of carriers being reserved for communication between unsynchronised nodes,~~

~~at least one respective carrier of said sub-set of carriers being assigned to nodes in the multi-carrier system,~~

~~whereby a relation between node identity of said nodes and said at least one carrier being created; and~~

~~interpret at least a frequency of the received sinusoidal signal as information about the identity of a node transmitting the received sinusoidal signal~~.

67. (New) A method for communication between nodes in a multi-carrier system, utilizing a set of carriers and having a predetermined symbol length,

the method comprising the steps of:

- reserving a sub-set of carriers for communication between unsynchronized nodes,

- at least one respective carrier of said sub-set of carriers being assigned to nodes in the multi-carrier system to create a relation between node identity of said nodes and said at least one carrier;

- transmitting a sinusoidal signal, being phase-continuous, on said at least one carrier of the sub-set of carriers for a first node during a predetermined transmission period,

the predetermined transmission period corresponding to the duration of n consecutive ones of the predetermined symbol length, where n is an integer larger than 1,

- receiving the transmitted sinusoidal signal in a second node; and

- interpreting the received sinusoidal signal, in turn comprising associating at least a frequency of the received sinusoidal signal with information about the identity of the first node, whereby the existence of the first node within radio communication distance is concluded,

wherein the step of interpreting the received sinusoidal signal comprises the further steps of:

- deriving a relative Doppler as a frequency difference between the received sinusoidal signal and an expected frequency associated to the first node;

- associating the relative Doppler to a velocity component of the second node in the direction of the first node; and

- associating a sign of the relative Doppler to information about if the second node moves towards or away from the first node.

68. (New) A method for communication between nodes in a multi-carrier system, utilizing a set of carriers and having a predetermined symbol length,

the method comprising the steps of:

- reserving a sub-set of carriers for communication between unsynchronized nodes,

- at least one respective carrier of said sub-set of carriers being assigned to nodes in the multi-carrier system to create a relation between node identity of said nodes and said at least one carrier;

- transmitting a sinusoidal signal, being phase-continuous, on said at least one carrier of the sub-set of carriers for a first node during a predetermined transmission period,

the predetermined transmission period corresponding to the duration of n consecutive ones of the predetermined symbol length, where n is an integer larger than 1,

- receiving the transmitted sinusoidal signal in a second node; and

- interpreting the received sinusoidal signal, in turn comprising associating at least a frequency of the received sinusoidal signal with information about the identity of the first node, whereby the existence of the first node within radio communication distance is concluded,

wherein the step of interpreting the received sinusoidal signal comprises the further steps of:

- deriving a relative path loss as an averaged received signal strength compared with a transmission strength of the first node; and

- associating the relative path loss to an estimate of the distance between the first and second nodes.

69. (New) The node according to claim 56, wherein the signal processor is further arranged to:

- derive a relative Doppler as a frequency difference between the received sinusoidal signal and an expected frequency associated to the first node;

- associate the relative Doppler to a velocity component of the second node in the direction of the first node; and

- associate a sign of the relative Doppler to information about if the second node moves towards or away from the first node.

70. (New) The node according to claim 56, wherein the signal processor is further arranged to:

- derive a relative path loss as an averaged received signal strength compared with a transmission strength of the first node; and

- associate the relative path loss to an estimate of the distance between the first and second nodes.